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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,472	03/02/2004	Hans F. van Rietschote	5760-20000/VRTS0629	2107
86942	7590	03/10/2010		
Meyertons, Hood, Kivlin, Kowert, Goetzel/Symantec P.O. Box 398 Austin, TX 78767-0398				
			EXAMINER HO, ANDY	
			ART UNIT 2194	PAPER NUMBER
			NOTIFICATION DATE 03/10/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/791,472	<b>Applicant(s)</b> RIETSCHOTE ET AL.
	<b>Examiner</b> ANDY HO	<b>Art Unit</b> 2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 6/3/2009, 9/8/2009 and 12/10/2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-26 and 29-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-26 and 29-39 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statements (PTO/SB/08)  
 Paper No(s)/Mail Date 1/21/2010
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date: \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is in response to the communications filed on 6/3/2009, 9/8/2009 and 12/10/2009.
2. Claims 1-26 and 29-39 have been examined and are pending in the application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-26 and 29-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Araujo U.S Patent No. 7,111,060.

**As to claim 1,** Araujo teaches a system comprising:

at least one computer system, wherein the computer system is configured to execute a virtual machine corresponding to a user (lines 1-3 column 4, lines 3-45 column 9), wherein the virtual machine comprises an operating system and at least one application executable on the operating system, and the operating system and

application executing on the computer system during use (Fig. 3A, line 57 column 13 to line 12 column 14);

a storage subsystem configured to store data representing the virtual machine, the data including the operating system and the application (60, Fig. 1; Fig. 3A, line 57 column 13 to line 12 column 14); and

at least one file server coupled to a network to which the computer system is configured to be coupled (files servers 78, Fig. 1 and associated specification), wherein the file server is further coupled to the storage subsystem, and wherein the file server is configured to provide the computer system with access to the data representing the virtual machine on the storage subsystem over the network (line 62 column 11 to line 19 column 12).

**As to claim 2,** Araujo further teaches the at least one file server comprises a plurality of file servers in a cluster (multiple machines, lines 19-20 column 9, multiple servers 70, Fig. 1 and associated specification).

**As to claim 3,** Araujo further teaches the computer system is configured for essentially continuous connection to the network during use, and wherein the computer system is configured to effect modifications to a state of the virtual machine by modifying the data in the storage subsystem (line 2 column 18 to line 16 column 19).

**As to claim 4,** Araujo further teaches the computer system is configured to cache at least a portion of the data in the computer system (line 2 column 18 to line 16 column 19).

**As to claim 5**, Araujo further teaches the computer system is configured for intermittent connection to the network during use (lines 9-28 column 10), and wherein the computer system includes storage configured to store the data representing the virtual machine (60, Fig. 1), and wherein the computer system is configured to replicate modifications to a state of the virtual machine to the data stored on the storage subsystem during times that the computer system is connected to the network (line 2 column 18 to line 16 column 19).

**As to claim 6**, Araujo further teaches plurality of computer systems, and wherein a given computer system of the plurality of computer systems is configured to execute the virtual machine responsive to a user login to the given computer system (multiple machines, lines 19-20 column 9, multiple servers 70, Fig. 1 and associated specification).

**As to claim 7**, Araujo further teaches a provisioner server coupled to the network, wherein the computer system is configured, during boot, to issue a remote boot request, and wherein the provisioner server is configured to respond to the remote boot request if the computer system is to be provisioned (lines 29-56 column 10).

**As to claim 8**, Araujo further teaches the storage subsystem is configured to store data representing a plurality of virtual machines (60, Fig. 1), each of the plurality of virtual machines corresponding to a respective user of a plurality of users (lines 1-3 column 4, lines 3-45 column 9), and wherein the system further comprises a maintenance server coupled to the storage subsystem, wherein the maintenance server

is configured to perform one or more maintenance actions on the plurality of virtual machines on the storage subsystem (line 2 column 18 to line 16 column 19).

**As to claim 9,** Araujo further teaches a second computer system used by an administrator, wherein the virtual machine is executed on the second computer system by an administrator to diagnose a problem reported by the user, and wherein the administrator is configured to update the virtual machine to correct the problem, and wherein the user is configured to execute the corrected virtual machine from the storage subsystem (line 2 column 18 to line 16 column 19).

**As to claim 10,** Araujo teaches a computer accessible medium comprising a plurality of instructions which, when executed on a computer system, responsive to a login of a user on the computer system (line 2 column 18 to line 16 column 19), cause the computer system to execute a virtual machine corresponding to the user (lines 1-3 column 4, lines 3-45 column 9), the virtual machine represented by data stored in a file system accessible to the computer system over a network to which the computer system is configured to be coupled at least intermittently (60, Fig. 1 and associated specification), wherein the virtual machine comprises an operating system and at least one application executable on the operating system, and the operating system and application executing on the computer system during use, and wherein the data stored in the filesystem that represents the virtual machine includes the operating system and the application (Fig. 3A, line 57 column 13 to line 12 column 14).

**As to claims 11-13,** they are computer product claims of claims 3-5, respectively. Therefore, they are rejected for the same reasons as claims 3-5 above.

**As to claims 14-17,** they are system claims of claims 10 and 3-5, respectively. Therefore, they are rejected for the same reasons as claims 10 and 3-5 above.

**As to claims 18-22,** they are method claims of claims 1-5, respectively. Therefore, they are rejected for the same reasons as claims 1-5 above.

**As to claim 23,** Araujo further teaches correcting a problem in the virtual machine by modifying the data on the storage subsystem (line 2 column 18 to line 16 column 19); and

replicating the data from the storage subsystem to the computer system during a time that the computer system is connected to the network (lines 24-31 column 18).

**As to claim 24,** Araujo further teaches a provisioner server is coupled to the network, during boot, issuing a remote boot request from the computer system; and the provisioner server responding to the remote boot request if the computer system is to be provisioned (lines 29-56 column 10).

**As to claim 25,** Araujo further teaches (line 2 column 18 to line 16 column 19) an administrator diagnosing a problem with the virtual machine; the administrator determining that the computer system is to be provisioned responsive to diagnosing the problem; and the administrator indicating to the provisioner server that the computer system is to be provisioned responsive to the determining.

**As to claim 26,** Araujo further teaches the storage subsystem stores data representing a plurality of virtual machines (60, Fig. 1 and associated specification),

each of the plurality of virtual machines corresponding to a respective user of a plurality of users (lines 1-3 column 4, lines 3-45 column 9), performing one or more maintenance actions on the plurality of virtual machines on the storage subsystem (line 2 column 18 to line 16 column 19).

**As to claim 29,** Araujo further teaches when executed in response to a boot of the computer system, transmit a remote boot request over the network, and wherein a response to the remote boot request includes code that causes a provisioning of the computer system when executed on the computer system (line 57 column 10 to line 18 column 11).

**As to claim 30,** Araujo further teaches when executed in response to a timeout without receiving a response to the remote boot request, boot the computer system locally (line 57 column 10 to line 18 column 11).

**As to claim 31,** Araujo further teaches mounting a directory in the filesystem that contains the data representing the virtual machine (lines 24-31 column 18).

**As to claim 32,** Araujo further teaches when executed in response to the directory being mounted read-only, log the user off of the computer system (lines 19-61 column 11).

**As to claim 33,** Araujo further teaches when executed in response to the directory being locked, attempt to break the lock (lines 19-61 column 11).

**As to claim 34,** Araujo further teaches when executed in response to the attempt to break the lock being unsuccessful, log the user off of the computer system (lines 19-61 column 11).

**As to claim 35**, Araujo further teaches when executed, lock the mounted directory (lines 19-61 column 11).

**As to claim 36**, Araujo further teaches the data representing the virtual machine comprises a swap virtual disk used by the operating system for virtual memory swapping, and wherein the plurality of instructions, when executed, copy the swap virtual disk to the computer system, whereby swapping is performed only locally on the computer system (lines 22-37 column 13).

**As to claim 37**, Araujo further teaches when executed in response user log off, delete the swap virtual disk from the computer system (lines 22-37 column 13).

**As to claim 38**, Araujo further teaches determine whether or not a network connection is available to the filesystem in response to the user log in; request user input responsive to detecting that no network connection is available; and change a first replication state of a local volume on the storage that stores the data representing the virtual machine to primary disconnected responsive to the user input indicating to continue (line 57 column 10 to line 18 column 11).

**As to claim 39**, Araujo further teaches determine a first replication state of a local volume on the storage, the local volume storing the data representing the virtual machine; determine a second replication state of a remote volume on the remote filesystem that stores the data representing the virtual machine; and replicate responsive to the first replication state and the second replication state (Fig. 3A, line 57 column 13 to line 12 column 14).

***Response to Arguments***

4. Applicant's arguments filed 6/3/2009 have been fully considered but they are not persuasive.

Applicant argues that the cited reference, Araujo, is different from the claimed invention in which: in the claimed invention, a user's computer system locally executes a virtual machine comprising an operating system and at least one application, wherein Araujo teaches a thin client and remote application execution (Remarks, pages 12-14). In response, the limitations of the independent claims of the claimed invention do not clearly point out this distinction. For example, claim 1 discloses:

" at least one computer system, wherein the computer system is configured to execute a virtual machine corresponding to a user, wherein the virtual machine comprises an operating system and at least one application executable on the operating system, and the operating system and application executing on the computer system during use"

Here, the underlined claim language could be broadly understood as: a server computer system executes a virtual machine corresponding to a user when the user logs in and accesses the server computer system from the user's local computer. Therefore, this concept could suggest a thin client accessing a virtual machine in a server and requesting remote application execution, as disclosed by Araujo. Because the claim language could be broadly interpreted as disclosed here, Araujo reference meets the limitations as claimed.

5. Applicant's arguments filed 12/10/2009 have been fully considered. The requirement for restriction sent 11/30/2009 is withdrawn.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy Ho whose telephone number is (571) 272-3762. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or' Public PAIR.  
Status information for unpublished applications is available through Private PAIR only.  
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Any response to this action should be mailed to:

Commissioner for Patents

P.O Box 1450

Alexandria, VA 22313-1450

Or fax to:

- AFTER-FINAL faxes must be signed and sent to (571) 273 - 8300.
- OFFICAL faxes must be signed and sent to (571) 273 - 8300.
- NON OFFICAL faxes should not be signed, please send to (571) 273 – 3762

/Andy Ho/

Primary Examiner

Art Unit 2194